°FORM PTO-1390 (REV 11-2000) U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. § 371

ATTORNEY'S DOCKET NUMBER: 449122020500

U.S. APPLICATION NO (If known, see 37 CFR 1.5): 10/049183 Not yet assigned

INTERNATIONAL APPLICATION NO	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/DE00/02643	August 8, 2000	August 10,1999

TITLE OF INVENTION

METHOD AND APPARATUS FOR INCREASING THE RESISTANCE TO FAILURE OF INFORMATION CENTERS CONNECTED TO EXCHANGES

APPLICANT(S) FOR DO/EO/US

Roland BRUNNER et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U S.C. 371
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31)
5. ☒ A copy of the International Application as filed (35 U.S C. 371(c)(2))
   a. ☐ is attached hereto (required only if not communicated by the International Bureau).
   b. ☒ has been communicated by the International Bureau
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application under PCT Article 19 (35 U.S.C. 371(c)(2)).
   a. ☒ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. ☐ are attached hereto (required only if not communicated by the International Bureau).
   b. ☐ have been communicated by the International Bureau
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☐ have not been made and will not be made
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U S C 371(c)(3))
9. ☒ An oath or declaration of the inventor(s) (35 U S C 371(c)(4))
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U S C 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3 28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification
16. ☐ A change of power of attorney and/or address letter
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1 821 - 1 825.
18. ☐ A second copy of the published international application under 35 U S C. 154(d)(4)
19. ☐ A second copy of the English language translation of the international application under 35 U S C 154(d)(4)
20. ☒ Other items or information 1) Application Data Sheet; 2)Int'l Search Report; 3) Return receipt postcard.

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on February 8, 2002.

Melissa Garton

Melissa Garton

dc-302003

U.S. APPLICATION NO (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY DOCKET NO
Not yet assigned 10/049183	PCT/DE00/02643	449122020500

21. ☒ The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO.....$1,000.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO.....$890.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....$710.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provision of PCT Article 33(1)-(4).....$690.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4).....$100.00

	CALCULATIONS PTO USE ONLY	
ENTER APPROPRIATE BASIC FEE AMOUNT =	$890.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$0	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	- 20 =		x $18.00	$0	
Independent claims	- 3 =		x $80.00	$0	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ $270.00	$0	

TOTAL OF ABOVE CALCULATIONS =	$890.00	
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by ½.	$0	
SUBTOTAL =	$890.00	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)). +	$0	
TOTAL NATIONAL FEE =	$890.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00 per property** +	$40.00	
TOTAL FEES ENCLOSED =	$930.00	
Amount to be refunded:		**$**
charged:		**$**

a. ☒ Please charge my **Deposit Account No. 03-1952** (referencing Docket No. 449122020500) in the amount of $930.00 to cover the above fees. A duplicate copy of this sheet is enclosed.

b. ☒ The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment to **Deposit Account No. 03-1952** (referencing Docket No. 449122020500).

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Kevin R. Spivak
Morrison & Foerster LLP
2000 Pennsylvania Avenue, N.W.
Washington, D.C. 20006-1888

SIGNATURE

Kevin R. Spivak
Registration No. 43,148

February 8, 2002

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on February 8, 2002.

Melissa Garton

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Roland BRUNNER et al.

Serial No.: Not yet assigned

Examiner: Not yet assigned

Filing Date: February 8, 2002

Group Art Unit: Not yet assigned

For: METHOD AND APPARATUS FOR INCREASING THE RESISTANCE TO FAILURE OF INFORMATION CENTERS CONNECTED TO EXCHANGES

PRELIMINARY AMENDMENT

BOX PCT
Commissioner for Patents
Washington, D.C. 20231

Sir:
Prior to examination on the merits, please amend this application as follows:

In the Specification:

Page 1 before the first paragraph, please delete the following:

Description

Page 1, between lines 5 and 6, please insert the following headings and paragraph:

CLAIM FOR PRIORITY

This application claims priority to International Application No. PCT/DE00/02643 which was published in the German language on August 8, 2000.

TECHNICAL FIELD OF THE INVENTION

The invention relates to a method for operating an information center in a telecommunication network, and to an arrangement for carrying out the inventive method.

Please delete the heading beginning at line 4 of page 1 in its entirety.

Please delete the paragraph beginning at line 6 of page 1 in its entirety.

Please replace the heading beginning at line 25 of page 1 with the following rewritten heading:

BACKGROUND OF THE INVENTION

Please replace the consecutive paragraphs beginning at line 27 of page 1 with the following rewritten paragraphs:

Information centers have the task of providing call number information and, if necessary, setting up the connection to the subscriber required by the caller. In addition, these centers normally provide a multiplicity of additional services, including, by way of example, the connection of telephone conference calls, simultaneous translation or monitoring of the length of a call. The functionality of such an information center is also described by the term "Call Center".

The use of a mainframe pursues the objective, firstly, of collecting the status reports from the connected information desks, such as "free" or "busy", storing them centrally and, on the basis of this information, connecting an incoming call to an information desk using the exchange. Secondly, they provide processes and data which need to be available centrally in order to satisfy the demands placed on such an information center, and of permitting connection to external data networks. A mainframe having the aforementioned properties is also known by the term "Computer Telephone Integration Server", or "CTI Server" for short.

Please replace the consecutive paragraphs beginning at line 28 of page 2 with the following rewritten paragraphs:

U.S. Patent No. 5,848,143 entitled "Communications system using a central controller to control at least one network and agent system" dated March 4, 1996 discloses that it is possible to increase the resistance to failure of an information center by using a "primary central controller" and a "redundant central controller" of identical design thereto. In this context, a central controller performs typical tasks of an information center, for example generating control signals for distributing the calls to the information desks, and requesting status and utilization level of an information desk. The primary central controller and the redundant central controller are connected to one another via a data line which is used to interchange "heartbeat messages". If, by way of example, the primary central controller fails, this message, reception of which in the redundant central controller is regularly checked, is no longer sent. If a connection from the redundant central controller to the primary central controller using a path other than the aforementioned data line is not possible to set up, it is assumed that the primary central controller has failed. The tasks of the primary central controller are therefore performed by the redundant central controller until the primary central controller is operational again.

On the basis of the prior art, reducing to failure is achieved by duplicating the components in question, with the reduction to failure being greater the more components there are available in duplicate. A drawback, however, is that this solution is associated with a comparatively high level of technical complexity.

Page 3, between lines 24 and 25, please insert the following heading and paragraph:

SUMMARY OF THE INVENTION

The invention relates to a method for operating an information center in a telecommunication network, where, the information center is connected to an exchange, the information center comprises both a mainframe and at least one information desk having at least one telecommunication terminal, the mainframe is connected to the exchange, the information desk is connected to the exchange and to the mainframe via data transfer devices, and the basic function of distributing the incoming calls and setting up a voice link to a telecommunication terminal on the information desk is incorporated in the exchange.

The invention also relates to an arrangement for carrying out the inventive method.

Please replace the paragraph beginning at line 25 of page 3 with the following rewritten paragraph:

The invention discloses a method for operating an information center of the type mentioned in the introduction in which the cited drawbacks do not arise.

Please delete the heading at line 30 of page 3 in its entirety.

Please replace the consecutive paragraphs beginning at line 32 of page 3 with the following rewritten paragraphs:

In one embodiment of the invention, there is a method for operating an information center. The method includes, for example, the exchange continuously checks the ready status of the mainframe and of the telecommunication terminals, including the communication links thereto, and detects any fault arising, the mainframe continuously checks the ready status of the telecommunication terminals, including the data transfer path thereto, detects any fault arising and reports this to the exchange, and if the information desks cannot be reached via

the mainframe, the exchange at least performs call distribution and sets up a voice link to a telecommunication terminal on the information desk.

In one advantageous embodiment of the invention, during fault-free operation, the distribution of calls to the information desks is performed on the mainframe, and at least status reports from the units connected to the exchange are processed within the latter. During fault-free operation of the information center, the exchange thus has comparatively little loading.

Please replace the consecutive paragraphs beginning at line 31 of page 4 with the following rewritten paragraphs:

In one advantageous embodiment of the invention, if a telecommunication terminal on the information desk cannot be reached, at least call distribution and the setup of a voice link to another, ready telecommunication terminal on the same information desk are performed. Duplication of the telecommunication terminals and of the transfer paths to the exchange significantly increases the resistance to failure of the information center.

In another embodiment of the invention, there is an arrangement. The arrangement includes, for example, an information center connected to an exchange, in which the information center comprises both a mainframe and at least one information desk having at least one telecommunication terminal, in which the mainframe is connected to the exchange, in which the information desk is connected to the exchange and to the mainframe via data transfer devices, in which distribution of incoming calls and setting up a voice link to a telecommunication terminal on the information desk is incorporated in the exchange, in which the exchange comprises a device to continuously check the ready status of the mainframe and of the telecommunication terminals, including the communication links thereto, and also a device to detect any fault arising, in which the mainframe comprises a device to continuously

check the ready status of the telecommunication terminals, including the data transfer path thereto, and a device to detect a fault arising and a device to report this fault to the exchange, and in which the exchange comprises a device for call distribution and for setting up a voice link to a telecommunication terminal on the information desk if the information desks cannot be reached via the mainframe.

In one advantageous embodiment of the invention, the telecommunication terminal provided on the information desk is a personal computer equipped with a device for voice input and voice output, and a device for connection to the telecommunication network and for data transfer to the mainframe. The device provided for voice input may be, by way of example, a microphone, and the device provided for voice output may be headphones. For connection to the telecommunication network and to the data network, plug-in cards are used, for example, which permit the data to be converted into a serial data format in line with the respective transfer protocol. The simultaneous connection to a telecommunication network and a computer data network makes it possible to meet the demands placed on the telecommunication terminal in a particularly user-friendly manner. In addition, if the data transfer path to the mainframe fails, restricted operation can be maintained. In this context, the functionality during restricted operation depends on which data and processes are incorporated locally in the personal computer on the information desk. In the course of the disclosure, it may be pointed out that the increasing integration of voice data into the computer data networks means that there is not an absolute need for there to be a difference between the data protocols of the telecommunication network and of the data network for the mainframe. This merging is also known by the term "Voice over Internet Protocol".

It is advantageous if the information desk comprises a telephone and a personal computer having the aforementioned properties. In addition to the advantages already cited, the full functionality of the information desk is maintained even if one of the two

telecommunication terminals cannot be reached. Besides this, emergency operation can be maintained even in the event of total failure of the personal computer, for example on account of a power failure, since the telephone is supplied with the required power by the exchange.

Please replace the heading beginning at line 10 of page 7 with the following rewritten heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Please replace the paragraph beginning line 12 of page 7 with the following rewritten paragraph:

The invention is explained in more detail with reference to Figure 1, which shows an exemplary arrangement of the elements of an information center.

Please replace the paragraph beginning line 12 of page 7 with the following rewritten paragraph:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please replace the consecutive paragraphs beginning at line 18 of page 7 with the following rewritten paragraphs:

The information center CC shown in the figure comprises a mainframe CTI and a plurality of information desks AP1 to APn which are of identical design and each comprise a telephone TEL and a personal computer PC. In the exemplary embodiment, both the telephones TEL1 to TELn and the personal computers PC1 to PCn are connected to the exchange VST via ISDN basic accesses, although analog connecting lines may also be used. The personal computers PC1 to PCn are additionally connected to the mainframe CTI via data

lines combined in a bus structure. The mainframe CTI is likewise connected to the exchange VST via a data line.

Referring to the information center in Figure 1, normal operation and restricted modes of operation, caused by failure of at least one element of the information center, are explained: During normal operation, an incoming call is reported by a program running in the exchange VST, the "call distribution program", to the program running on the mainframe CTI, the central program. Using the information available on the mainframe CTI, which information also includes the states "free" and "busy" for the information desks AP1 to Apn, the central program determines to which information desk AP1 to APn the call will be forwarded. In addition, the mainframe CTI is also used to provide the data and processes needed for full operation of the information center CC, and also the connection to external service providers. The staff at the relevant information desk AP can now use the personal computer PC to provide the service they require. The status reports from the information desks AP1 to APn are continuously recorded both by the central program and by the call distribution program. Apart from collection and storage of these status reports, the call distribution program has no other tasks during normal operation.

If the mainframe CTI or a line connected thereto fails, this is detected by the call distribution program. The call distribution program then performs a call distribution required for an information center CC, and connects incoming calls to the telephone TEL or to the personal computer PC on the respective information desk AP. When normal operation can be resumed following repair of the damage, an appropriate report is sent by the central program to the call distribution program. The call distribution program then limits functionality to the extent provided during normal operation.

If a telephone TEL, or its line connected to the exchange VST, on an information desk AP fails, the full functionality of the information center CC is maintained. The same applies

for failure of a personal computer PC or of a data line connected thereto, with services which typically require the use of a computer not being able to be provided, or being able to be provided to a restricted degree.

In the Claims:

What is claimed is:

1. (Amended) A method for operating an information center in a telecommunication network, comprising:

connecting the information center to an exchange, wherein the information center comprises a mainframe and at least one information desk having at least one telecommunication terminal;

connecting the mainframe to the exchange;

connecting the information desk to the exchange and to the mainframe via data transfer devices; and

distributing incoming calls and setting up a voice link to a telecommunication terminal on the information desk incorporated in the exchange, wherein the exchange continuously checks a ready status of the mainframe and the at least one telecommunication terminal, including the communication links thereto, and detects any fault arising,

the mainframe continuously checks the ready status of the at least one telecommunication terminal, including the data transfer path thereto, detects any fault arising and reports detected faults to the exchange, and

if the at least one information desk is not reached via the mainframe, the exchange performs at least call distribution and sets up a voice link to one of the telecommunication terminals on one of the respective information desks.

[redacted]

2. (Amended) The method as claimed in claim 1, wherein during fault-free operation, the distribution of calls to the information desks is performed on the mainframe, and at least status reports from the units connected to the exchange are processed.

3. (Amended) The method as claimed in claim 1, wherein restricted operation of the information center, caused by at least partial failure of the mainframe or of a line connected thereto, is maintained by the exchange until the mainframe resumes normal operation.

4. (Amended) The method as claimed in claim 1, wherein if a telecommunication terminal on one of the information desks is not reached, at least call distribution and the setup of a voice link to another telecommunication terminal on the same information desk are performed.

5. (Amended) An information center in a telecommunication network, comprising:

an information center connected to an exchange,

the exchange comprising a mainframe and at least one information desk having at least one telecommunication terminal,

the mainframe connected to the exchange,

the at least one information desk connected to the exchange and to the mainframe via data transfer devices,

wherein distribution of incoming calls and setting up a voice link the at least one telecommunication terminal on the information desk is incorporated in the exchange,

the exchange continuously checking the ready status of the mainframe and the at least one telecommunication terminals, including the communication links thereto, and detecting any fault arising,

the mainframe continuously checking the ready status of the at least one telecommunication terminal, including the data transfer path thereto, and detecting any fault arising and reports any detected fault to the exchange, and

the exchange performs call distribution and sets up a voice link to the at least one telecommunication terminal on the at least one information desk if the information desk is not reached via the mainframe.

6. (Amended) The information center as claimed in claim 5, wherein the at least one telecommunication terminal provided on the at least one information desk is a personal computer which performs voice input and voice output, connects to the telecommunication network and performs data transfer to the mainframe.

7. (Amended) The information center as claimed in claim 5, wherein the at least one telecommunication terminals provided on the at least one information desk are a telephone and a personal computer, and the personal computer comprises a voice input and voice output device for connection to the telecommunication network and a unit for data transfer to the mainframe.

8. (Amended) The information center as claimed in claim 5, wherein the at least one telecommunication terminal on the at least one information desk is connected to the exchange via at least one ISDN basic access.

In the Abstract:

Please replace the Abstract with substitute Abstract attached hereto.

REMARKS

The above amendments to the specification, claims, and abstract have been made to place the application in proper U.S. format and to conform with proper grammatical and idiomatic English. None of the amendments herein are made for reasons related to patentability. No new matter has been added.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made**".

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 449122020500. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: February 8, 2002

Kevin R. Spivak
Registration No. 43,148

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Washington, D.C. 20006-1888
Telephone: (202) 887-6924
Facsimile: (202) 263-8396

VERSION WITH MARKINGS TO SHOW CHANGES MADE

For the convenience of the Examiner, the changes made are shown below with deleted text in strikethrough and added text in underline.

In the Specification:

Page 1 before the first paragraph, please delete the following:

~~Description~~

Page 1, between lines 5 and 6, please insert the following headings and paragraph:

CLAIM FOR PRIORITY

This application claims priority to International Application No. PCT/DE00/02643 which was published in the German language on August 8, 2000.

TECHNICAL FIELD OF THE INVENTION

The invention relates to a method for operating an information center in a telecommunication network, and to an arrangement for carrying out the inventive method.

Please delete the heading beginning at line 4 of page 1 in its entirety.

Please delete the paragraph beginning at line 6 of page 1 in its entirety.

Please replace the heading beginning at line 25 of page 1 with the following rewritten heading:

BACKGROUND OF THE INVENTION

Please replace the consecutive paragraphs beginning at line 27 of page 1 with the following rewritten paragraphs:

~~The i~~Information centers ~~addressed essentially~~ have the task of providing call number information and, if necessary, setting up the connection to the subscriber required by the caller. In addition, these centers normally provide a multiplicity of additional services, including, by way of example, the connection of telephone conference calls, simultaneous translation or monitoring of the length of a call. The functionality of such an information center is also described by the term "Call Center".

The use of a mainframe pursues the objective, firstly, of collecting the status reports from the connected information desks, such as "free" or "busy", storing them centrally and, on the basis of this information, connecting an incoming call to an information desk using the exchange~~ and secondly~~. Secondly, ~~of providing~~ they provide processes and data which need to be available centrally in order to ~~be able to~~ satisfy the demands placed on such an information center, and ~~also~~ of permitting connection to external data networks. A mainframe having the aforementioned properties is also known by the term "Computer Telephone Integration Server", or "CTI Server" for short.

Please replace the consecutive paragraphs beginning at line 28 of page 2 with the following rewritten paragraphs:

~~US 5848143~~ U.S. Patent No. 5,848,143 entitled "Communications system using a central controller to control at least one network and agent system" dated March 4, 1996 ~~also~~ discloses that it is possible to increase the resistance to failure of an information center by using a "primary central controller" and a "redundant central controller" of identical design thereto. In this context, a central controller performs typical tasks of an information center, for example generating control signals for distributing the calls to the information desks, and requesting status and utilization level of an information desk. The primary central controller and the redundant central controller are connected to one another via a data line which is used

to interchange "heartbeat messages". If, by way of example, the primary central controller fails, this message, reception of which in the redundant central controller is regularly checked, is no longer sent. If ~~it is also not possible to set up~~ a connection from the redundant central controller to the primary central controller using a path other than the aforementioned data line is not possible to set up, it is assumed that the primary central controller has failed. The tasks of the primary central controller are therefore performed by the redundant central controller until the primary central controller is operational again.

On the basis of the prior art, ~~resistance~~ reducing to failure is ~~essentially~~ achieved by duplicating the components in question, with the ~~resistance~~ reduction to failure being greater the more components there are available in duplicate. A drawback ~~in this context~~, however, is that this solution is associated with a comparatively high level of technical complexity.

Page 3, between lines 24 and 25, please insert the following heading and paragraph:

SUMMARY OF THE INVENTION

The invention relates to a method for operating an information center in a telecommunication network, where, the information center is connected to an exchange, the information center comprises both a mainframe and at least one information desk having at least one telecommunication terminal, the mainframe is connected to the exchange, the information desk is connected to the exchange and to the mainframe via data transfer devices, and the basic function of distributing the incoming calls and setting up a voice link to a telecommunication terminal on the information desk is incorporated in the exchange.

The invention also relates to an arrangement for carrying out the inventive method.

Please replace the paragraph beginning at line 25 of page 3 with the following rewritten paragraph:

The invention ~~is therefore based on the object of specifying~~ discloses a method for operating an information center of the type mentioned in the introduction in which the cited drawbacks do not arise.

Please delete the heading at line 30 of page 3 in its entirety.

Please replace the consecutive paragraphs beginning at line 32 of page 3 with the following rewritten paragraphs:

~~The invention~~ In one embodiment of the invention, ~~achieves this object with~~ there is a method for operating an information center ~~of the type mentioned, where, in addition,~~. The method includes, for example, the exchange continuously checks the ready status of the mainframe and of the telecommunication terminals, including the communication links thereto, and detects any fault arising, the mainframe continuously checks the ready status of the telecommunication terminals, including the data transfer path thereto, detects any fault arising and reports this to the exchange, and if the information desks cannot be reached via the mainframe, the exchange at least performs call distribution and sets up a voice link to a telecommunication terminal on the information desk.

In one ~~particularly~~ advantageous ~~refinement~~ embodiment of the invention, during fault-free operation, the distribution of calls to the information desks is performed on the mainframe, and at least status reports from the units connected to the exchange are processed within the latter. During fault-free operation of the information center, the exchange thus has comparatively little loading.

Please replace the consecutive paragraphs beginning at line 31 of page 4 with the following rewritten paragraphs:

In one ~~particularly~~ advantageous ~~refinement~~ embodiment of the invention, if a telecommunication terminal on the information desk cannot be reached, at least call distribution and the setup of a voice link to another, ready telecommunication terminal on the same information desk are performed. Duplication of the telecommunication terminals and of the transfer paths to the exchange significantly increases the resistance to failure of the information center.

~~The object of~~ In another embodiment of the invention, there is an ~~is also achieved with an~~ arrangement ~~for carrying out the inventive method, in which the~~. The arrangement includes, for example, an information center ~~is~~ connected to an exchange, in which the information center comprises both a mainframe and at least one information desk having at least one telecommunication terminal, in which the mainframe is connected to the exchange, in which the information desk is connected to the exchange and to the mainframe via data transfer devices, in which ~~the basic function of distributing the~~ distribution of incoming calls and setting up a voice link to a telecommunication terminal on the information desk is incorporated in the exchange, in which the exchange comprises ~~means for~~ a device to continuously check~~ing~~ the ready status of the mainframe and of the telecommunication terminals, including the communication links thereto, and also a device to detect any fault arising, in which the mainframe comprises a device to continuously check the ready status of the telecommunication terminals, including the data transfer path thereto, and ~~also means for detecting any~~ a device to detect a fault arising and ~~means for reporting~~ a device to report this fault to the exchange, and in which the exchange comprises ~~means for~~ a device for call

distribution and for setting up a voice link to a telecommunication terminal on the information desk if the information desks cannot be reached via the mainframe.

In one advantageous ~~refinement~~ embodiment of the invention, the telecommunication terminal provided on the information desk is a personal computer equipped with ~~means for~~ a device for voice input and voice output, and ~~also with means~~ a device for connection to the telecommunication network and ~~means~~ for data transfer to the mainframe. The ~~means~~ device provided for voice input may be, by way of example, a microphone, and the ~~means~~ device provided for voice output may be headphones. For connection to the telecommunication network and to the data network, plug-in cards are used, for example, which ~~essentially~~ permit the data to be converted into a serial data format in line with the respective transfer protocol. The simultaneous connection to a telecommunication network and a computer data network makes it possible to meet the demands placed on the telecommunication terminal in a particularly user-friendly manner. In addition, if the data transfer path to the mainframe fails, restricted operation can be maintained. In this context, the functionality during restricted operation depends ~~essentially~~ on which data and processes are incorporated locally in the personal computer on the information desk. In the course of the disclosure, it may be pointed out that the increasing integration of voice data into the computer data networks means that there is ~~no~~ not an absolute need for there to be a difference between the data protocols of the telecommunication network and of the data network for the mainframe. This merging is also known by the term "Voice over Internet Protocol".

It is ~~particularly~~ advantageous if the information desk comprises ~~both~~ a telephone and a personal computer having the aforementioned properties. In addition to the advantages already cited, the full functionality of the information desk is maintained even if one of the two telecommunication terminals cannot be reached. Besides this, emergency operation can be maintained even in the event of total failure of the personal computer, for example on

account of a power failure, since the telephone is supplied with the required power by the exchange.

Please replace the heading beginning at line 10 of page 7 with the following rewritten heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Please replace the paragraph beginning line 12 of page 7 with the following rewritten paragraph:

The invention is explained in more detail with reference to ~~the figure~~ Figure 1, which shows ~~the illustrative~~ an exemplary arrangement of the elements of an information center.

Please replace the paragraph beginning line 12 of page 7 with the following rewritten paragraph:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please replace the consecutive paragraphs beginning at line 18 of page 7 with the following rewritten paragraphs:

The information center CC shown in the figure comprises a mainframe CTI and a plurality of information desks AP1 to APn which are of identical design and each comprise a telephone TEL and a personal computer PC. In the exemplary embodiment, both the telephones TEL1 to TELn and the personal computers PC1 to PCn are connected to the exchange VST via ISDN basic accesses, ~~but~~ although analog connecting lines ~~are also conceivable~~ may also be used. The personal computers PC1 to PCn are additionally connected

to the mainframe CTI via data lines combined in a bus structure. The mainframe CTI is likewise connected to the exchange VST via a data line.

~~The illustrative~~ Referring to the information center ~~works in the manner below, where firstly~~ in Figure 1, normal operation ~~but also~~ and restricted modes of operation, caused by failure of at least one element of the information center, are explained:

During normal operation, an incoming call is reported by a program running in the exchange VST, the "call distribution program", to the program running on the mainframe CTI, the central program. Using the information available on the mainframe CTI, which information also includes the states "free" and "busy" for the information desks AP1 to Apn, the central program determines to which information desk AP1 to APn the call will be forwarded. In addition, the mainframe CTI is also used to provide the data and processes needed for full operation of the information center CC, and also the connection to external service providers. The staff at the relevant information desk AP can now use the personal computer PC to provide the service they require. The status reports from the information desks AP1 to APn are continuously recorded both by the central program and by the call distribution program. Apart from collection and storage of these status reports, the call distribution program has no other tasks during normal operation.

If the mainframe CTI or a line connected thereto fails, this is detected by ~~means of~~ the call distribution program. The ~~latter~~ call distribution program then performs ~~the function of~~ a call distribution required for an information center CC ~~whatever happens~~, and connects incoming calls to the telephone TEL or to the personal computer PC on the respective information desk AP. When normal operation can be resumed following repair of the damage, an appropriate report is sent by the central program to the call distribution program. The ~~latter~~ call distribution program then limits ~~its~~ functionality to the extent provided during normal operation.

If a telephone TEL, or its line connected to the exchange VST, on an information desk AP fails, the full functionality of the information center CC is maintained. The same applies for failure of a personal computer PC or of a data line connected thereto, with services which typically require the use of a computer not being able to be provided, or being able to be provided ~~only~~ to a restricted degree.

In the Claims:

~~Patent Claims~~

What is claimed is:

1. (Amended) A method for operating an information center ~~(CC)~~ in a telecommunication network, ~~where,~~ comprising:

connecting the information center ~~(CC) is connected~~ to an exchange ~~(VST)~~, wherein the information center ~~(CC)~~ comprises ~~both~~ a mainframe ~~(CTI)~~ and at least one information desk ~~(AP)~~ having at least one telecommunication terminal~~,~~;

connecting the mainframe ~~(CTI) is connected~~ to the exchange ~~(VST),~~;

connecting the information desk ~~(AP) is connected~~ to the exchange ~~(VST)~~ and to the mainframe ~~(CTI)~~ via data transfer devices~~,~~; and

~~the basic function of~~ distributing ~~the~~ incoming calls and setting up a voice link to a telecommunication terminal on the information desk ~~(AP) is~~ incorporated in the exchange ~~(VST)~~, wherein

~~characterized~~

~~in that~~ the exchange ~~(VST)~~ continuously checks ~~the~~ a ready status of the mainframe ~~(CTI)~~ and ~~of~~ the at least one telecommunication terminal~~s~~, including the communication links thereto, and detects any fault arising,

~~in that~~ the mainframe ~~(CTI)~~ continuously checks the ready status of the at least one telecommunication terminals, including the data transfer path thereto, detects any fault arising and reports ~~this~~ detected faults to the exchange ~~(VST)~~, and

~~in that,~~ if the at least one information desks ~~(AP) cannot be~~ is not reached via the mainframe ~~(CTI)~~, the exchange ~~(VST)~~ ~~at least~~ performs at least call distribution and sets up a voice link to ~~a~~ one of the telecommunication terminals on one of the respective information desks ~~(AP)~~.

2. (Amended) The method as claimed in claim 1, wherein

~~characterized in that,~~ during fault-free operation, the distribution of calls to the information desks ~~(AP1) to (APn)~~ is performed on the mainframe ~~(CTI)~~, and at least status reports from the units connected to the exchange ~~(VST)~~ are processed ~~within the latter~~.

3. (Amended) The method as claimed in claim 1, wherein

~~characterized in that~~ restricted operation of the information center ~~(CC)~~, caused by at least partial failure of the mainframe ~~(CTI)~~ or of a line connected thereto, is maintained by the exchange ~~(VST) on its own~~ until the mainframe ~~(CTI) is ready to~~ resumes normal operation.

4. (Amended) The method as claimed in claim 1, wherein

~~characterized in that,~~ if a telecommunication terminal on one of the information desks ~~(AP) cannot be~~ is not reached, at least call distribution and the setup of a voice link to another, ~~ready~~ telecommunication terminal on the same information desk ~~(AP)~~ are performed.

5. (Amended) An information center ~~(CC)~~ in a telecommunications network, comprising: ~~which is prepared for carrying out a method as claimed in claims 1 to 4 and~~

~~in which the~~ an information center ~~(CC) is~~ connected to an exchange ~~(VST)~~,

~~in which~~ the exchange ~~(CC) comprises~~ comprising ~~both~~ a mainframe ~~(CTI)~~ and at least one information desk ~~(AP)~~ having at least one telecommunication terminal,

~~in which~~ the mainframe ~~(CTI) is~~ connected to the exchange ~~(VST)~~,

~~in which~~ the at least one information desk ~~(AP) is~~ connected to the exchange ~~(VST)~~ and to the mainframe ~~(CTI)~~ via data transfer devices, ~~and~~

wherein distribution of ~~in which the basic function of distributing the~~ incoming calls and setting up a voice link to the at least one ~~a~~ telecommunication terminal on the information desk ~~(AP)~~ is incorporated in the exchange ~~(VST)~~,

~~characterized~~

~~in that~~ the exchange ~~(VST) comprises means for~~ continuously checking the ready status of the mainframe ~~(CTI)~~ and ~~of~~ the at least one telecommunication terminals, including the communication links thereto, and ~~also means for~~ detecting any fault arising,

~~in that~~ the mainframe ~~(CTI) comprises means for~~ continuously checking the ready status of the at least one telecommunication terminals, including the data transfer path thereto, and ~~also means for~~ detecting any fault arising and ~~means for reporting this~~ reports any detected fault to the exchange ~~(VST)~~, and

~~in that~~ the exchange ~~(VST) comprises means for~~ performs call distribution and ~~for setting~~ sets up a voice link to the at least one ~~a~~ telecommunication terminal on the at least one information desk ~~(AP)~~ if the information desks ~~(AP) cannot be~~ is not reached via the mainframe ~~(CTI)~~.

6. (Amended) The information center ~~(CC)~~ as claimed in claim 5, wherein

~~characterized in that~~ the at least one telecommunication terminal provided on the at least one information desk ~~(AP)~~ is a personal computer ~~(PC)~~ which ~~comprises means for~~

performs voice input and voice output, ~~means for connection~~ connects to the telecommunication network and ~~means for~~ performs data transfer to the mainframe ~~(CTI)~~.

7. (Amended) The information center ~~(CC)~~ as claimed in claim 5, wherein ~~characterized in that~~ the at least one telecommunication terminals provided on the at least one information desk ~~(AP)~~ are a telephone ~~(TEL)~~ and a personal computer ~~(PC)~~, and ~~in that~~ the personal computer ~~(PC)~~ comprises ~~means for~~ a voice input and voice output device~~,~~ ~~means~~ for connection to the telecommunication network and ~~means~~ a unit for data transfer to the mainframe ~~(CTI)~~.

8. (Amended) The information center ~~(CC)~~ as claimed in claim 5, wherein ~~characterized in that~~ the at least one telecommunication terminal on the at least one information desk ~~(AP)~~ is connected to the exchange ~~(VST)~~ via at least one ISDN basic access.

METHOD AND APPARATUS FOR INCREASING THE RESISTANCE TO FAILURE OF INFORMATION CENTERS CONNECTED TO EXCHANGES

Abstract

An information center in a telecommunication network and a method for operating the information center, where the information center is connected to an exchange and includes a mainframe, connected to the exchange, and at least one information desk having at least one telecommunication terminal. Operation of the information center can be performed by a plurality of elements of the information center, so that the failure of individual elements do not result in the failure of the entire information center. These include, call distribution, which can be performed both by the mainframe and by the exchange itself, and duplication of the telecommunication terminals, including the necessary data transfer paths.

Serial No. Not yet assigned
Docket No. 449122020500

GR 99 P 2525

Method and apparatus for increasing the resistance to failure of information centers connected to exchanges.

Technical field:

The invention relates to an information center in a telecommunication network, which information center is connected to an exchange and comprises both a mainframe, connected to the exchange, and at least one information desk having at least one telecommunication terminal. The invention also relates to a method for operating an information center of the type mentioned.

Prior art:

The information centers addressed essentially have the task of providing call number information and, if necessary, setting up the connection to the subscriber required by the caller. In addition, these centers normally provide a multiplicity of additional services, including, by way of example, the connection of telephone conference calls, simultaneous translation or monitoring of the length of a call. The functionality of such an information center is also described by the term "Call Center".

The use of a mainframe pursues the objective, firstly, of collecting the status reports from the connected information desks, such as "free" or "busy", storing them centrally and, on the basis of this information, connecting an incoming call to an information desk using the exchange, and secondly of providing those processes and data which need to be available centrally in order to be able to satisfy the demands placed on such an information center, and also of permitting connection to external data networks. A mainframe having the aforementioned properties is also known by

the term "Computer Telephone Integration Server", or "CTI Server" for short.

The high number of callers to be controlled, and the need for an information center for the telephone traffic, means that failure of such an information center is a serious technical problem.

In conventional information centers, such total failure occurs simply if one of the elements contained fails, be it the mainframe, the data line between the exchange and the mainframe, the data lines between the mainframe and the individual information desks or the personal computers on the information desks. Failure of an element can be caused by the failure of the relevant power supply network, for example.

The invention is therefore based on the object of specifying an information center in a telecommunication network, which information center is connected to an exchange and comprises both a mainframe, connected to the exchange, and at least one information desk having at least one telecommunication terminal, without the cited drawbacks arising.

Description of the invention:

The invention achieves this object with an information center of the type mentioned in the introduction, in which

- the information desk is connected to the exchange and to the mainframe via data transfer devices,
- the basic function of distributing the incoming calls and setting up a voice link to a telecommunication terminal on the information desk is incorporated in the exchange,
- the exchange continuously checks the ready status of the mainframe and of the telecommunication

terminals, including the communication links thereto, and detects any fault arising,

- the mainframe continuously checks the ready status of the telecommunication terminals, including the data transfer path thereto, detects any fault arising and reports this to the exchange, and
- if the information desks cannot be reached via the mainframe, the exchange at least performs call distribution and sets up a voice link to a telecommunication terminal on the information desk.

In one advantageous refinement of the invention, the telecommunication terminal provided on the information desk is a personal computer equipped with means for voice input and voice output, and also with means for connection to the telecommunication network and means for data transfer to the mainframe. The means provided for voice input may be, by way of example, a microphone, and the means provided for voice output may be headphones. For connection to the telecommunication network and to the data network, plug-in cards are used, for example, which essentially permit the data to be converted into a serial data format in line with the respective transfer protocol. The simultaneous connection to a telecommunication network and a computer data network makes it possible to meet the demands placed on the telecommunication terminal in a particularly user-friendly manner. In addition, if the data transfer path to the mainframe fails, restricted operation can be maintained. In this context, the functionality during restricted operation depends essentially on which data and processes are incorporated locally in the personal computer on the information desk. In the course of the disclosure, it may be pointed out that the increasing integration of voice data into the computer data networks means that there is no absolute need for there to be a difference

between the data protocols of the telecommunication network and of the data network for the mainframe. This merging is also known by the term "Voice over Internet Protocol".

It is particularly advantageous if the information desk comprises both a telephone and a personal computer having the aforementioned properties. In addition to the advantages already cited, the full functionality of the information desk is maintained even if one of the two telecommunication terminals cannot be reached. Besides this, emergency operation can be maintained even in the event of total failure of the personal computer, for example on account of a power failure, since the telephone is supplied with the required power by the exchange.

It is beneficial if the telecommunication terminals on the information desk are connected to the exchange by means of ISDN basic accesses, since a signaling channel and associated services useful for an information center are stipulated in the appropriate data transfer protocol.

In one particularly advantageous refinement of the invention, during fault-free operation, the overall central functionality is ensured by the mainframe, and only status reports from the connected units are processed within the exchange. The separate arrangement of the mainframe means that new services can be introduced more easily, and the unit remains relatively easy to maintain. Besides this, the exchange is not additionally loaded with the central data and processes required for the full functionality of an information center, but rather provides only indispensable resources.

It is also advantageous if the restricted operation of

the information center is maintained by the exchange on its own until the mainframe is ready to resume normal operation. Changeover from normal operation to restricted operation and vice versa is thus performed fully automatically by the program running in the exchange, and takes place without further action by the staff responsible for the exchange.

In one particularly advantageous refinement of the invention, if a telecommunication terminal on the information desk cannot be reached, at least call distribution and the setup of a voice link to another, ready telecommunication terminal on the information desk are performed. Duplication of the telecommunication terminals and of the transfer paths to the exchange significantly increases the resistance to failure of the information center.

Description of the drawing:

The invention is explained in more detail with reference to the figure, which shows the illustrative arrangement of the elements of an information center.

Best way of implementing the invention:

The information center CC shown in the figure comprises a mainframe CTI and a plurality of information desks AP1 to APn which are of identical design and each comprise a telephone TEL and a personal computer PC. In the exemplary embodiment, both the telephones TEL1 to TELn and the personal computers PC1 to PCn are connected to the exchange VST via ISDN basic accesses, but analog connecting lines are also conceivable. The personal computers PC1 to PCn are additionally connected to the mainframe CTI via data lines combined in a bus structure. The mainframe CTI is likewise connected to the exchange VST via a data line.

The illustrative information center works in the manner below, where firstly normal operation but also restricted modes of operation caused by failure of at least one element of the information center are explained:

During normal operation, an incoming call is reported by a program running in the exchange VST, the "call distribution program", to the program running on the mainframe CTI, the central program. Using the information available on the mainframe CTI, which information also includes the states "free" and "busy" for the information desks AP1 to APn, the central program determines to which information desk AP1 to APn the call will be forwarded. In addition, the mainframe CTI is also used to provide the data and processes needed for full operation of the information center CC, and also the connection to external service providers. The staff at the relevant information desk AP can now use the personal computer PC to provide the service they require. The status reports from the information desks AP1 to APn are continuously recorded both by the central program and by the call distribution program. Apart from collection and storage of these status reports, the call distribution program has no other tasks during normal operation.

If the mainframe CTI or a line connected thereto fails, this is detected by means of the call distribution program. The latter then performs the function of call distribution required for an information center CC whatever happens, and connects incoming calls to the telephone TEL or to the personal computer PC on the respective information desk AP. When normal operation can be resumed following repair of the damage, an appropriate report is sent by the central program to the call distribution program. The latter then limits

its functionality to the extent provided during normal operation.

If a telephone TEL, or its line connected to the exchange VST, on an information desk AP fails, the full functionality of the information center CC is maintained. The same applies for failure of a personal computer PC or of a data line connected thereto, with services which typically require the use of a computer not being able to be provided, or being able to be provided only to a restricted degree.

Patent Claims

1. An information center (CC) in a telecommunication network, which information center is connected to an exchange (VST) and comprises both a mainframe (CTI), connected to the exchange (VST), and at least one information desk (AP) having at least one telecommunication terminal, characterized
   - in that the information desk (AP) is connected to the exchange (VST) and to the mainframe (CTI) via data transfer devices, and
   - in that the basic function of distributing the incoming calls and setting up a voice link to a telecommunication terminal on the information desk (AP) is incorporated in the exchange (VST).

2. The information center (CC) as claimed in claim 1, characterized in that the telecommunication terminal provided on the information desk (AP) is a personal computer (PC) which comprises means for voice input and voice output, means for connection to the telecommunication network and means for data transfer to the mainframe (CTI).

3. The information center (CC) as claimed in claim 1, characterized in that the telecommunication terminals provided on the information desk (AP) are a telephone (TEL) and a personal computer (PC), and in that the personal computer (PC) comprises means for voice input and voice output, means for connection to the telecommunication network and means for data transfer to the mainframe (CTI).

4. The information center (CC) as claimed in claim 1, characterized in that the at least one telecommunication terminal on the information desk

(AP) is connected to the exchange (VST) via at least one ISDN basic access.

5. A method for operating an information center (CC) as claimed in one of claims 1 to 4, characterized
- in that the exchange (VST) continuously checks the ready status of the mainframe (CTI) and of the telecommunication terminals, including the communication links thereto, and detects any fault arising,
- in that the mainframe (CTI) continuously checks the ready status of the telecommunication terminals, including the data transfer path thereto, detects any fault arising and reports this to the exchange (VST),
- in that, if the information desks (AP) cannot be reached via the mainframe (CTI), the exchange (VST) at least performs call distribution and sets up a voice link to a telecommunication terminal on the information desk (AP).

6. The method as claimed in claim 5, characterized in that, during fault-free operation, the processes needing to take place centrally for the information center (CC) to be fully functional run on the mainframe (CTI), and at least status reports from the units connected to the exchange (VST) are processed within the latter.

7. The method as claimed in claim 5, characterized in that the restricted operation of the information center (CC) is maintained by the exchange (VST) on its own until the mainframe (CTI) is ready to resume normal operation.

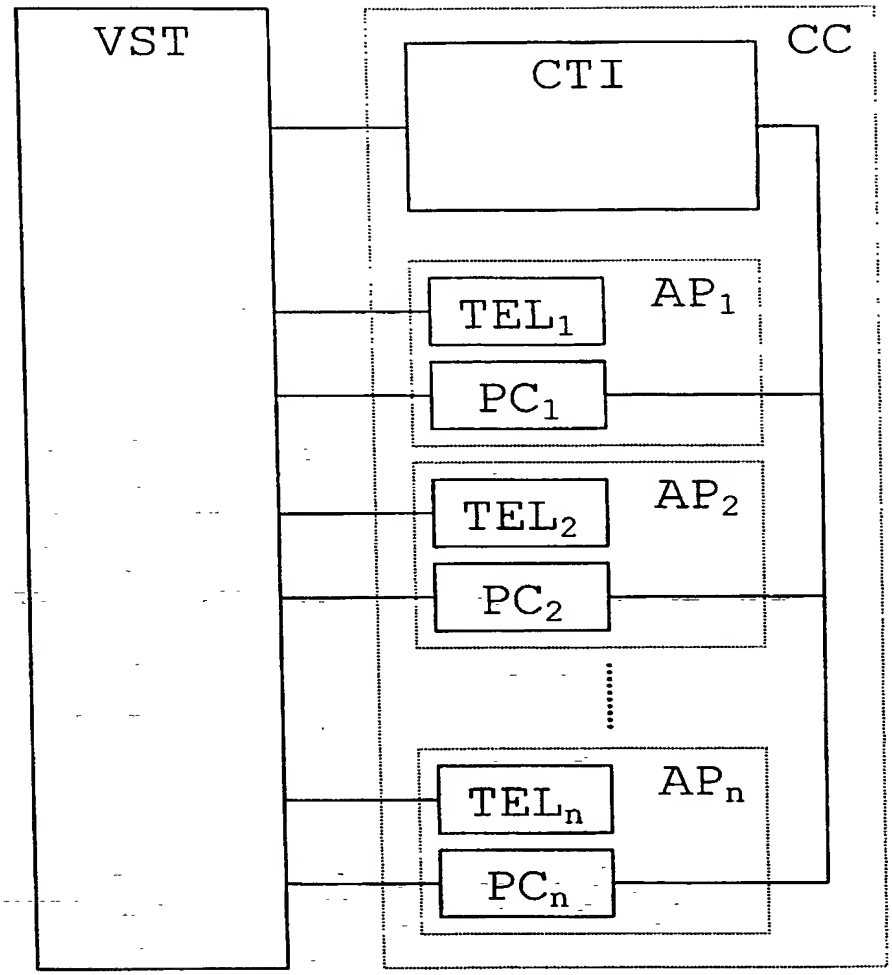
8. The method as claimed in claim 5, characterized in that, if a telecommunication terminal on the information desk (AP) cannot be reached, at least call distribution and the setup of a voice link to another, ready telecommunication terminal on the information desk (AP) are performed.

GR 99 P 2525

Translation of DE19937675.1

Abstract:

The invention specifies an information center (CC) in a telecommunication network and a method for operating said information center, where the information center (CC) is connected to an exchange (VST) and comprises both a mainframe (CTI), connected to the exchange (VST), and at least one information desk (AP) having at least one telecommunication terminal. The basic functions for operating the information center (CC) can be performed by a plurality of elements of the information center (CC), so that the failure of individual elements cannot result in the failure of the entire information center (CC). These include, firstly, call distribution, which can be performed both by the mainframe (CTI) and by the exchange (VST) itself, and secondly duplication of the telecommunication terminals, including the necessary data transfer paths.


VST
CC
CTI
TEL1
AP1
PC1
TEL2
AP2
PC2
TELn
APn
PCn

Declaration and Power of Attorney For Patent Application
Erklärung Für Patentanmeldungen Mit Vollmacht
German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

As a below named inventor, I hereby declare that:

dass mein Wohnsitz, meine Postanschrift, und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

My residence, post office address and citizenship are as stated below next to my name,

dass ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent beantragt wird für die Erfindung mit dem Titel:

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Verfahren und Vorrichtung zur Erhoehung der Ausfallsicherheit von an Vermittlungsstellen angeschlossenen Auskunftsstellen.

Method and device for increasing the fail safety of information desks connected to exchanges

deren Beschreibung

the specification of which

(zutreffendes ankreuzen)
☐ hier beigefügt ist.
☒ am 8.August 2000 als
PCT internationale Anmeldung
PCT Anmeldungsnummer PCT/DE00/02643
eingereicht wurde und am 5. September 2001
abgeändert wurde (falls tatsächlich abgeändert).

(check one)
☐ is attached hereto.
☒ was filed on august 8th 2000 as
PCT international application
PCT Application No. PCT/DE00/02643
and was amended on september 5th 2001
(if applicable)

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

IDNR: 2590 / V: 99-1.00 / B:Val

German Language Declaration

Prior foreign appplications
Priorität beansprucht

Priority Claimed

19937675.1 (Number) (Nummer)	DE (Country) (Land)	10.08.1999 (Day Month Year Filed) (Tag Monat Jahr eingereicht)	☒ Yes Ja	☐ No Nein
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	☐ Yes Ja	☐ No Nein
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	☐ Yes Ja	☐ No Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35. United States Code. §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occured between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.) (Anmeldeseriennummer)	(Filing Date D, M, Y) (Anmeldedatum T, M, J)	(Status) (patentiert, anhangig, aufgegeben)	(Status) (patented, pending, abandoned)
(Application Serial No.) (Anmeldeseriennummer)	(Filing Date D,M,Y) (Anmeldedatum T, M, J)	(Status) (patentiert, anhangig, aufgeben)	(Status) (patented, pending, abandoned)

Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozessordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden koennen, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

German Language Declaration

VERTRETUNGSVOLLMACHT: Als benannter Erfinder beauftrage ich hiermit den nachstehend benannten Patentanwalt (oder die nachstehend benannten Patentanwälte) und/oder Patent-Agenten mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Geschäfte vor dem Patent- und Warenzeichenamt: *(Name und Registrationsnummer anführen)*

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

And I hereby appoint

Customer No. 25227

Telefongespräche bitte richten an: *(Name und Telefonnummer)*

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2000 Pennsylvania Ave., NW 20006-1888 Washington, DC
Telephone: (001) 202 887 1500 and Facsimile (001) 202 887 0763
or
Customer No. 25227

Voller Name des einzigen oder ursprünglichen Erfinders:	Full name of sole or first inventor
BRUNNER Roland	
Unterschrift des Erfinders / Datum: Roland Brunner 18.12.2001	Inventor's signature / Date
Wohnsitz: Vienna, Austria ATX	Residence
Staatsangehörigkeit: AT	Citizenship
Postanschrift: Hirschstettnerstraße 26	Post Office Addess
A-1220 Wien Austria	
Voller Name des zweiten Miterfinders (falls zutreffend)	Full name of second joint inventor, if any:
ROSCHER Gerhard	
Unterschrift des Erfinders / Datum: 18.12.2001	Second Inventor's signature / Date
Wohnsitz: Vienna, Austria ATX	Residence
Staatsangehorigkeit: AT	Citizenship
Postanschrift: Eipeldauerstraße 38	Post Office Address
A-1220 Wien Austria	

(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).